

REMARKS

I. Introduction

In response to the Office Action dated June 26, 2003, claims 1, 40 and 79 have been amended. Claims 1-3, 5-42, 44-81 and 83-117 remain in the application. Re-examination and re-consideration of the application, as amended, is requested.

II. Claim Amendments

Applicants' attorney has made amendments to claims 1, 40 and 79 as indicated above. These amendments were made solely for the purposes of clarifying the language of claims 1, 40 and 79, and was not required for patentability or to distinguish claims 1, 40 and 79 over the prior art.

III. Prior Art Rejections

A. The Office Action Rejections

In paragraphs (2)-(3) of the Office Action, claims 1, 5-11, 14, 16, 17, 21, 22, 40, 44-50, 53, 55, 56, 60, 61, 79, 83-89, 92, 94, 95, 99, and 100 were rejected under 35 U.S.C. §103(a) as being unpatentable over Freier et al., "The SSL Protocol, Version 3.0" November 18, 1996, Transport Layer Working Group, pp. 1-58 (Freier). In paragraph (4) of the Office Action, claims 2, 28-39, 41, 67-78, 80, and 106-117 were rejected under 35 U.S.C. §103(a) as being unpatentable over Freier in view of Fryer et al., "Microsoft Press Computer Dictionary" 1997, Microsoft Press, 3rd Edition, pg. 482 (Fryer). In paragraph (5) of the Office Action, claims 12, 51, and 90 were rejected under 35 U.S.C. §103(a) as being unpatentable over Freier in view of Griffiths et al., U.S. Patent No. 6,286,045 (Griffiths). In paragraph (6) of the Office Action, claims 13, 52, and 91 were rejected under 35 U.S.C. §103(a) as being unpatentable over Freier in view of the Netscape Handbook (Netscape). In paragraph (7) of the Office Action, claims 15, 18-20, 23-25, 54, 57-59, 62-64, 93, 96-98, and 101-103 were rejected under 35 U.S.C. §103(a) as being unpatentable over Freier in view of Coley et al., U.S. Patent No. 5,826,014 (Coley). In paragraph (8) of the Office Action, claims 26, 65, and 104 were rejected under 35 U.S.C. §103(a) as being unpatentable over Freier in view of Raz, U.S. Patent No. 6,292,827 B1 (Raz). In paragraph (9) of the Office Action, claims 27, 66, and 105 were rejected under 35 U.S.C. §103(a) as being unpatentable over Freier in view of Raz, and further in view of Coley.

Applicants' attorney respectfully traverses these rejections.

B. The Applicants' Claimed Invention

Independent claims 1, 40 and 79 are generally directed to a network multiplexing and tunneling system, transmission media and method. The method of claim 79 is representative and comprises:

- (a) opening a single Transmission Control Protocol (TCP) connection at a user-level between at least two endpoints in the network;
- (b) establishing a secure connection using Secure Sockets Layer (SSL) over the opened Transmission Control Protocol (TCP) connection;
- (c) mutually authenticating each of the endpoints of the secure connection; and
- (d) multiplexing other connections through the secure connection once both of the endpoints have been authenticated, wherein either endpoint of the secure connection can receive connection requests for the multiplexed other connections.

C. The Freier Reference

Freier describes Version 3.0 of the Secure Sockets Layer (SSL V3.0) protocol, a security protocol that provides communications privacy over the Internet. The protocol allows client/server applications to communicate in a way that is designed to prevent eavesdropping, tampering, or message forgery.

D. The Fryer Reference

Fryer describes is a dictionary of computer terms, wherein the cited pages provide a definition of UDP (User Datagram Protocol).

E. The Griffiths Reference

Griffiths describes a system for storing information on a computer network and allowing the information to be accessed by terminals connected to the computer network, either directly, or through an intermediary device such as a local or proxy server, includes computer or web sites which store pages requested by terminals for display on the terminals. The pages may include references to banners to be displayed in conjunction with the web pages on the terminal. The terminal initiates access or connection to a desired computer or web site to access a desired page. After the desired page is downloaded, transmitted, or served to the terminal from the computer or web site, the terminal initiates and sends an initial banner request signal to an information server.

The information server returns a redirect signal to the terminal telling the terminal the location of the desired banner on the computer network, which may be the information server, the computer site, or some other information server, computer site, or location accessible via the computer network. The terminal then initiates a second banner request signal to the location of the desired banner and the banner is served to the terminal for display on the terminal, unless the requested banner has previously been stored or cached in the terminal's memory or in the memory of a local or proxy server connected to the terminal, in which case the second banner request signal is not sent across the computer network and the banner is loaded directly from the terminal's memory or served to the terminal from the proxy server.

F. The Netscape Reference

Netscape is a handbook that describes the SOCKS protocol.

G. The Coley Reference

Coley describes providing a firewall for isolating network elements from a publicly accessible network to which such network elements are attached. The firewall operates on a stand alone computer connected between the public network and the network elements to be protected such that all access to the protected network elements must go through the firewall. The firewall application running on the stand alone computer is preferably the only application running on that machine. The application includes a variety of proxy agents that are specifically assigned to an incoming request in accordance with the service protocol (i.e., port number) indicated in the incoming access request. An assigned proxy agent verifies the authority of an incoming request to access a network element indicated in the request. Once verified, the proxy agent completes the connection to the protected network element on behalf of the source of the incoming request.

H. The Raz Reference

Raz describes an information transfer network, comprising: a plurality of client terminals which comprise a presentation system having a control and management agent system; a plurality of servers which comprise a database system and an application system, and a control and management agent system; a request broker system which permits the exchange of information between said client terminals and said servers through a communication path between said terminal and said server, and an information management system for dynamically controlling the location, access and

transfer of information between said client terminals and said servers through a plurality of communication paths connecting said control and management agent system of each of said client terminals and servers to said information management system.

L. The Applicants' Claims Are Patentable Over The References

Applicants' invention, as recited in independent claims 1, 40 and 79, is patentable over the references, because the claims recite a specific combination of limitations not found in the references. Specifically, the references do not teach or suggest the specific sequence of steps comprising: (a) opening a single Transmission Control Protocol (TCP) connection at a user-level between at least two endpoints in the network; (b) establishing a secure connection using Secure Sockets Layer (SSL) over the opened Transmission Control Protocol (TCP) connection; (c) mutually authenticating each of the endpoints of the secure connection; and (d) multiplexing other connections through the secure connection once both of the endpoints have been authenticated, wherein either endpoint of the secure connection can receive connection requests for the multiplexed other connections.

Nonetheless, the Office Action cites Freier at pages 9-10, 3 and 49 as teaching most of the limitations of the independent claims. However, the Office Action admits that Freier does not teach that either of the endpoints of the secure connection can receive connection requests. Nonetheless, the Office Action takes official notice that such a concept is notoriously well known to one of skill in the art.

Applicants' attorney disagrees. Specifically, Applicants' attorney asserts that Freier does not teach or suggest the combination of limitations found in Applicants' independent claims.

For example, Freier, at page 9, merely states that an SSL session may include multiple connections. However, this portion of Freier does not teach or suggest multiplexing other connections through a single TCP/IP connection running SSL.

Similarly, at page 3, Freier merely states that SSL is layered on top of TCP. However, this portion of Freier does not teach or suggest multiplexing other connections through a single TCP/IP connection running SSL.

Further, in accordance with MPEP §2144.03, Applicants' attorney traverses the assertion of "Official Notice," and requests that the Examiner cite a reference in support of his position. Specifically, Applicants' attorney asserts that it is not well known that either of the endpoints of a secure connection can receive connection requests, in the context of a single Transmission Control

Protocol (TCP) connection at a user-level between the endpoints, where a secure connection using Secure Sockets Layer (SSL) has been established over the opened TCP connection, where each of the endpoints have been mutually authenticated, and where other connections are multiplexed through the secure connection once both of the endpoints have been authenticated. Indeed, the Office Action appears to confuse connection requests that set up the single TCP connection using SSL with subsequent connection requests made to the endpoints after the single TCP connection using SSL has been set up, so that other connections may be multiplexed through the TCP connection using SSL. As a result, it is only by ignoring the other limitations of the claims that the Office Action can make this assertion. Consequently, this response should be considered a reasonable challenge to the assertion of Official Notice that constitutes a demand for evidence.

The remaining references fail to overcome the deficiencies of Freier. For example, Fryer was cited merely for describing UDP as a connectionless protocol within TCP/IP; Griffiths was cited merely for resolving domain names; Netscape was cited merely for describing the use of SOCKS as a means for accessing information on the Internet; Coley was cited merely for using a bastion firewall host computer; and Raz was cited merely for using multiple Intranets.

Moreover, the various elements of Applicants' claimed invention together provide operational advantages over the cited references. In addition, Applicants' invention solves problems not recognized by the cited references.

Thus, Applicant submits that independent claims 1, 40 and 79 are allowable over the cited references. Further, dependent claims 2-3, 5-39, 41-42, 44-78, 80-81 and 83-117 are submitted to be allowable over the cited references in the same manner, because they are dependent on independent claims 1, 40 and 79, respectively, and thus contain all the limitations of the independent claims. In addition, dependent claims 2-3, 5-39, 41-42, 44-78, 80-81 and 83-117 recite additional novel elements not shown by the cited references.

IV. Conclusion

In view of the above, it is submitted that this application is now in good order for allowance and such allowance is respectfully solicited.


Should the Examiner believe minor matters still remain that can be resolved in a telephone interview, the Examiner is urged to call Applicants' undersigned attorney.

Respectfully submitted,

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